



الجامعة الإسلامية العالمية ماليزيا  
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA  
يُؤَيِّدُ رَيْسُيْهِ الْإِسْلَامُ الْإِنْبَارَ اِيْحْسَا بِمِلِّيْسِيَا

# Research, Innovation & Invention Exhibition 2010 (IRIIE 2010)

ENHANCING QUALITY RESEARCH &

# INNOVATION

for

# SOCIETAL

# DEVELOPMENT





**P-363 Investigation on Tribological Properties of Strontium Modified Piston Alloy Under Lubricated Condition**

**Md. Mohafizul Haque, Adibah Amir**

*Department of Manufacturing & Materials Engineering, Kulliyah of Engineering  
International Islamic University Malaysia*

Research in tribological areas such as wear and friction has technological and economical significance since they change the shape of the work piece, tool and die interfaces. Thus, they affect the process, size and quality of the parts produced. The magnitude of tribological problem is evident in the countless parts and components that continually have to be repaired or replaced. In the present study, the tribological properties of Al-Si (LM-6 type) alloy have been carried out. The results show that in general, the increase in wear with an increase in input weight, rotational speed and sliding distance up to certain level of the alloy. Then the wear declined for as-cast and heat-treated specimens under both modified and unmodified conditions. The volume of material worn was inversely proportional to the hardness of the alloy and thus, the heat treated alloy responded better than the normal cast alloy. During sliding, measurable debris transfer could be occurred, resulting weight gain of the sliding specimen. However, due to modification, wear of the alloy is minimized, and when it is heat treated, the material loss becomes zero.

**p-370 iSpeechNews: a Real Time Speech News Service for Ubiquitous Computing Environment**

**Teddy Mantoro., Media Anugerah Ayu, Abi Dzar Bin Jaafar**

*Computer Science, Kulliyah of Information & Communication Technology  
International Islamic University Malaysia*

ir-SpeechNews is a protocol to deliver a real time news service in form of speech news and lips graphics animation based on user location for Ubiquitous Computing Environment. The protocol requires 5 (five) important hybrid stacks, i.e. 1. user identity, 2. user location, 3. a real time news feeder 4. speech and dictations systems and 5. lips synchronization in responding to user activity.

iSpeechNews is a prototype which is developed using java language based on ir-SpeechNews protocol. The news feeder uses RSS feeder technique, the speech uses speech recognition and dictation technique, the user location uses dynamic 1-k-NN technique by measuring the signal strength of IEEE 802.11 and Bluetooth scanner dynamically, and lips synchronization uses phonetic synchronization technique to synchronize with a computer graphics animation.

User identity is captured from personal device that carried by the user, such as smart phone or PDA. The user identity is the basis of service delivery, without it, there will be no real time news delivery service to the user.

The aim of this protocol is to provide easy interactions between a user and the mobile computing environment in delivering specific form of news such as business and business competitor news, specific personal issue news, etc.

iSpeechNews is a life scenario on how computing environment can deliver intelligent responses, directly, to the user, based on user location, in the form of graphics animation and speech news.

**p-371 Screening And Optimization of Process Conditions for Extraction of Xanthine Oxidase Inhibitor from Potential Local Medicinal Plant**

**Parveen Jamal, Azura, Saiful Mohammad Nizam bin Azmi**

*Department of Biotechnology Engineering, Kulliyah of Engineering  
International Islamic University Malaysia*

Xanthine oxidase (XO) is an enzyme involved in the formation of uric acid in the body by catalyzing the oxidation of hypoxanthine to xanthine, and then, xanthine to uric acid. Excess serum accumulated with uric acid can lead to a type of arthritis known as gout. Hence, introducing natural remedy as new source of gout medication is highly granted. Twenty organs from eight local medicinal plants were